# Texas Department of Licensing and Regulation

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# INDUSTRIALIZED HOUSING AND BUILDINGS

Design Review Agency Guide to Decisions and Interpretations of the Texas Industrialized Building Code Council

# Texas Industrialized Housing and Buildings

## Design Review Agency Guide to Decisions and Interpretations of the Texas Industrialized Building Code Council

### WHAT IS A DESIGN REVIEW AGENCY?

Chapter 70, Industrialized Housing and Buildings Rules, section 70.10(a), defines a design review agency as "an approved organization, private or public, determined by the Council to be qualified by reason of facilities, personnel, experience, demonstrated reliability to review designs, plans, specifications, and building systems documentation, and to certify compliance to these sections evidenced by affixing the council's stamp."

The Council, in the definition of a design review agency [reference rule 70.10(a)], means the *Texas Industrialized Building Code Council*. Article 5221f-1, the Texas Industrialized Housing and Buildings Act (Act), states that the Council was created "to assure that the designs, plans, and specifications of industrialized housing and buildings meet the mandatory state codes." The Act further states that an "approved design review agency shall review all designs, plans, and specifications of industrialized housing or buildings to assure compliance with the mandatory construction codes in accordance with the interpretations and instructions of the Council" [section 5(g), Article 5221f-1] and that "the decisions, actions, and interpretations of the Council are binding on the department, third-party inspectors, **DESIGN REVIEW AGENCIES**, and municipalities and other local political subdivisions" [section 5(m), Article 5221f-1].

DRA's review and approve IHB documents in the name of the Council and are required to abide by the interpretations, decisions, and actions of the Council.

### WHAT IS THE PURPOSE OF THIS MANUAL?

The purpose of this manual is to outline basic procedures for approving and submitting IHB documents to the Department and to define for existing and new DRA's the interpretations and decisions of the Council since its inception in November, 1985. NOTE: The date when the Council approved a procedure, made an interpretation, granted a variance, approved a code alternate, etc., is indicated at the beginning of the applicable section or paragraph. The code editions in effect at that time, or the code editions in question, are also indicated. The council’s decisions were based on these code editions. Changes in later code editions adopted under the IHB program may affect these decisions.

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# REVISION LOG

*Note: Revision date is date guide was revised.*

| Section | Revision | Date of Revision |
|---|---|---|
| 701.9.2.1 | Revised to show changes in Rules and Regulations of the Board Regulating the Practice of Architecture. | October 3, 2001 |
| 701.9.2.2 | Revised to show changes in Rules and Regulations of the Board Regulating the Practice of Architecture. | October 3, 2001 |
| 701.9.5 | Revised to show changes in Rules and Regulations of the Board Regulating the Practice of Architecture. | October 3, 2001 |
| 702.2.1 | Revised to show new design for original stamp of approval. | October 3, 2001 |
| 702.3.1 | Revised to show new design for alternate stamp of approval. | October 3, 2001 |
| 705.7 | Revised heading from “Electrical Panel Box” to “Electrical.” | October 3, 2001 |
| 705.7.2 | New – Approval of DC dielectric tester. | October 3, 2001 |
| 705.9 | Revised heading from “Wind Loads” to “Design Loads.” | October 3, 2001 |
| 705.9.2 | New – Revise load requirements from seismic zone to seismic design category. | October 3, 2001 |
| 705.11.2.2 | New – Add EPDM guidelines. | October 3, 2001 |
| 705.15.1.1 | Update on FoamNail adhesive’s evaluation report. | October 3, 2001 |
| 705.15.2 | Update on Gold Bond applied parallel to framing members. | October 3, 2001 |

# SECTION 701 - GENERAL

## 701.1 Revisions to DRA's Application.

### 701.1.1 Notification of Changes in Status.

DRA's shall notify the Department in writing within 10 days of the following [reference rule 70.21(c)].

1. The name of the agency is changed.

2. The address of the agency is changed.

3. A partnership or corporation is created or exists or there is a change in 25% or more of the ownership of the business entity within a twelve-month period.

4. There are changes in principal officers or key supervisory personnel of the business entity.

5. There are changes in the key technical personnel of the agency or changes in the certifications of the technical personnel of the agency.

### 701.1.2 Changes in Technical Personnel or Qualifications of Technical Personnel.

Changes in technical personnel or the qualifications of technical personnel must be forwarded to the Department for approval [reference rule 70.22, Criteria for Approval of Design Review Agencies]. Technical personnel cannot be added to the DRA's organization chart of plan reviewers for Texas without prior approval from the Department. A revised organization chart that reflects the change must accompany changes in technical personnel.

ICBO certifications must be renewed every three years. DRA's must submit evidence of renewal of certifications and new certification expiration dates to the Department to avoid loss of approval for those plan reviewers with ICBO certifications.

## 701.2 Choosing a DRA.

The manufacturer is responsible for choosing a DRA from the list of Council approved DRA's. The manufacturer designates his choice of DRA to the Department in writing [reference rule 70.70(a)(1)]. A manufacturer may elect to use more than one approved DRA for review and approval of his Texas IHB documentation. However, the manufacturer cannot switch DRA's in the middle of a project, i.e., have one DRA do the initial review and approval on a project or model and another DRA review and approve revisions, or additions, to that project or model.

## 701.3 Review of design package.

An approved DRA shall review all designs, plans, specifications, calculations, compliance control programs, on-site documentation and specifications, and other documents as necessary to assure compliance with the mandatory construction codes as outlined in Department rule 70.100 and 70.101 and other applicable Department rules. Department rule 70.70(b), (c), and (d) outlines the minimum submittal requirements for a manufacturer’s design package. Review of IHB documents must be performed or directly supervised by the DRA's approved plan reviewers [reference rule 70.70(a)(2)]. Plan reviewers may not perform reviews in areas of review for which they have not been approved.

## 701.4 Submittal of Approved Documents to the Department.

A DRA must forward one copy of all Texas IHB documents, including additions and revisions to a manufacturer's design package, to the Department within 5 days of approval [reference rule 70.70(a)(4)]. **All approved documents shall be forwarded to the Department with a copy of form #046ihb, "Transmittal Sheet for Texas Approved Documents." Acceptance by the Department of all document submittals is subject to compliance with the following:**

1. approval stamp on all documents is an inked stamp (no copies);

2. all table of content pages, index pages, and cover or first page of a set of plans, calculations, specifications, etc. bear the original council stamp of approval [reference rule 70,70(a)(4)];

3. the signature on the original council stamp of approval is the signature of the manager or chief executive officer of the DRA as indicated in the DRA's application for approval (must be TX registered architect or engineer) [reference rules 70.70(a)(4) and 70.22(2)(A)];

4. the signature on the original council stamp of approval is an original signature [reference rule 70.70(a)(4). Signature stamp is accepted if approved by signatory and applied in his/her presence;

5. the DRA's registration #, the code or codes to which the documents were reviewed and approved, and the date of approval are entered on every council stamp of approval;

6. all documents are identified with the manufacturer's name and address (if for more than one facility, each facility must be identified) [reference rule 70.70(a)(3);

7. a completed compliance control manual checklist, form #016ihb, is enclosed for all compliance control manual submittals [Letter of November 25, 1997 to all DRA's]. The checklist must indicate where the required information can be found in the manual; and

8. ***November 11, 1987***: the Council voted to require the signature of each plan reviewer responsible for reviewing the documents and the area of review that they performed [reference rule 70.70(a)(2)]. **Approvals forwarded to the Department without the signature of the plan reviewers on the transmittal sheet will not be considered valid.**

## 701.5 DRA Files.

The DRA must have on file a copy of all documents approved by the DRA. Approved documents that have been deleted or superseded from the package must be kept on file for a minimum of five years [reference rule 70.70(a)(4)].

## 701.6 Return of Approved Documents to the Manufacturer.

The DRA will forward one copy of all approved documents, including additions and revisions, to the manufacturer [reference rule 70.70(a)(4)]. **NOTE: The approval stamp on documents forwarded to the manufacturer from the DRA cannot be a copy. The stamp must be an inked stamp.**

## 701.7 Withdrawal of Approval.

A DRA shall withdraw approval of any document whenever the approval is later found to be in violation of the mandatory codes or the Department rules. Notice of withdrawal of the approval must be made in writing to both the Department and the manufacturer. The notice must state the reasons for withdrawing approval. Any withdrawal of approval will have prospective effect only, except for life safety items.

## 701.8 Submittals Requiring an Engineer's Seal.

### 701.8.1 Responsibilities of the DRA.

Section 15(c) of the Texas Engineering Practice Act, Article 3271a, requires public officials of this State, or a political subdivision of this State, charged with the enforcement of laws, ordinances, codes, or regulations that affect the practice of engineering to only accept plans, specifications, and other related documents prepared by registered engineers, as evidenced by the seal of the engineer, unless exempted by the Act. Design review agencies are acting for the Department and the Council when they approve plans and specifications for the IHB program, and must assure that any plans, specifications, etc, accepted for review are in compliance with the Texas Engineering Practice Act.

### 701.8.2 Engineers' Seals.

#### 701.8.2.1 Original Signatures.

Section 131.166(f) of the Rules of Practice and Procedures for the Texas Engineering Practice Act: All seals obtained and used by license holders shall be capable of leaving a permanent ink or impression representation on the engineering work, or shall be capable of placing a computer-generated representation in a computer file containing the engineering work. If not accompanied by an original signature and date, computer-generated seals shall be accompanied by the following text or similar wording: “The seal appearing on this document was authorized by (Example: Leslie H. Doe, PE 0112) on (date).”

#### 701.8.2.2 Documents Requiring an Engineer's Seal.

Rule 131.166, Rules of Practice and Procedures for the Texas Engineering Practice Act: The engineer shall affix his seal on each sheet of engineering plans, drawings, and other separate engineering documents, and on the title or contents page of engineering specifications, reports, studies, and similar engineering work products considered to be bound volumes.

### 701.8.3 Public Work.

Section 19, Article 3271a, The Texas Engineering Practice Act: The engineering plans and specifications for public work, i.e., work for this state or any of its political subdivisions, including any county, city, or town, must be prepared by a registered professional engineer. Public work that involves structural, electrical, or mechanical engineering and for which the contemplated expenditure for the completed project does not exceed $8,000 is exempt from this requirement. Public work that does not involve structural, electrical, or mechanical engineering and for which the contemplated expenditure for the completed project does not exceed $20,000 is exempt from this requirement.

### 701.8.4 Buildings Exempted.

Section 20 of the Texas Engineering Practice Act, Article 3271a, exempts persons engaged in the erecting, constructing, enlarging, altering or repairing, or drawing plans and specifications for any:

1. private dwellings, or apartments not exceeding eight units per building for one story buildings, or apartments not exceeding four units per building and having a maximum height of two stories, or garages or other structures pertinent to such buildings;

2. private buildings which are to be used exclusively for farm, ranch or agricultural purposes, or used exclusively for storage of raw agricultural commodities; and

3. other buildings, except public buildings included under Section 19 of the Act, having no more than one story and containing no clear span between supporting structures greater than 24 feet on the narrow side and having a total floor area not in excess of five thousand square feet. For unsupported spans greater than 24 feet, on such buildings only the trusses, beams, or other roof supporting members need to be engineered or pre-engineered.

Any building that does not fall into the categories above, must have plans and specifications prepared by a registered professional engineer.

## 701.9 Submittals Requiring an Architects' Seal

### 701.9.1 Responsibilities of the DRA.

Section 17 of Article 249a, Regulation of the Practice of Architecture, requires a public official of this State, or of a political subdivision of this State, who is charged with the enforcement of laws, ordinances, codes, or regulations that affect the practice of architecture to only accept plans, specifications, and other related documents prepared by registered architects, as evidenced by the seal of the architect, unless exempted under the Act. Design review agencies are acting for the Department and the Council when they approve plans and specifications for the IHB program, and must assure that any plans, specifications, etc., accepted for review are in compliance with Article 249a.

### 701.9.2 Architects' Seals.

#### 701.9.2.1 Actual Signature. *(Revised October 3, 2001)*

Section 1.103 of the Rules and Regulations of the Board Regulating the Practice of Architecture: Architects shall affix their seal, actual signature, and date of signature to all original Construction Documents that are prepared and issued under authorship or supervision of the architect. Electronic drawing files may be released with the following statement substituted for the Architect's signature: "This electronic drawing file is released under the authority of {Architect's name, registration number} on {date}, who maintains the original file. This electronic drawing file may be used as a background drawing. Pursuant to Rule 1.103(f) of the Rules and Regulations of the Texas Board of Architectural Examiners, the user of this electronic drawing agrees to assume all responsibility for any modification to or use of this drawing file that is inconsistent with the requirements of the Rules and Regulations of the Texas Board of Architectural Examiners. No person may make any modification to this electronic drawing file without the Architect's express written permission."

#### 701.9.2.2 Documents Requiring Architects' Seal. *(Revised October 3, 2001)*

Section 1.103 of the Rules and Regulations of the Board Regulating the Practice of Architecture: The architect shall affix his seal to all original construction documents issued in Texas. Original construction documents requiring a seal, signature, and date shall include each sheet of drawings, each table of contents or index that lists specifications in bound groupings (individual specification sheets must be sealed individually if not part of bound document), each sheet that identifies the project and lists any sealed construction documents, and addenda, change orders, and supplemental drawings.

### 701.9.3 Public Work.

Section 16, Article 249a, Regulation of the Practice of Architecture: The architectural plans and specifications of any new building that is to be constructed and owned by a State agency, a political subdivision of this State, or any other public entity in this State, if the building is to be used for education, assembly, or office occupancy, must be prepared by an architect registered in accordance with Article 249a if the construction costs exceed $100,000.

### 701.9.4 Institutional Residential Facilities.

Section 15, Article 249a, Regulation of the Practice of Architecture: Architectural plans and specifications for any new building intended for use as an institutional facility, regardless of the number of stories or square footage, must be prepared by a person who is registered as an architect in accordance with Article 249a. An institutional facility is any building intended for occupancy of persons on a twenty-four hour basis who are receiving custodial care from the proprietors or operators of the building.

### 701.9.5 Buildings Exempted. *(Revised October 3, 2001)*

Section 14 of Article 249a, Regulation of the Practice of Architecture exempts persons who prepare architectural plans and specifications for or observes or supervises the construction, enlargement, or alteration of a privately owned building that is:

1. used primarily for farm, ranch, or agricultural purposes or used primarily for storage of raw agricultural commodities;

2. a single-family or a dual-family dwelling and any buildings and appurtenances associated with such dwelling;

3. a multifamily dwelling that does not exceed a height of two (2) stories and does not exceed sixteen (16) units per building;

4. a building that does not exceed a height of two stories and does not exceed a square footage of 20,000 square feet.

Any building that does not fall into one of the above categories must have architectural plans and specifications prepared by an architect registered under Article 249a.

## 701.10 Requirements of the Standard Building Code (SBC), 1997 edition.

### 701.10.1 Documents Requiring an Engineers' or Architects' Seal.

In addition to the requirements of Article 3271a, the Texas Engineering Practice Act, and Article 249a, Regulation of the Practice of Architecture, section 104.2.3 of the SBC, 1997 edition, requires that all drawings, specifications, and other documents be sealed by an architect or engineer legally registered under the laws of this state for all Group A, E, and I occupancies; buildings and structures 3 stories or more high; and buildings and structures 5,000 sq. ft or more in area.

### 701.10.2 Other Documents.

For other buildings and structures, documents submitted must bear the certification of the applicant that some specific state law exception permits preparation of the documents by a person not registered as an engineer or architect.

# SECTION 702 - COUNCIL STAMP OF APPROVAL

## 702.1 Approval of Documents.

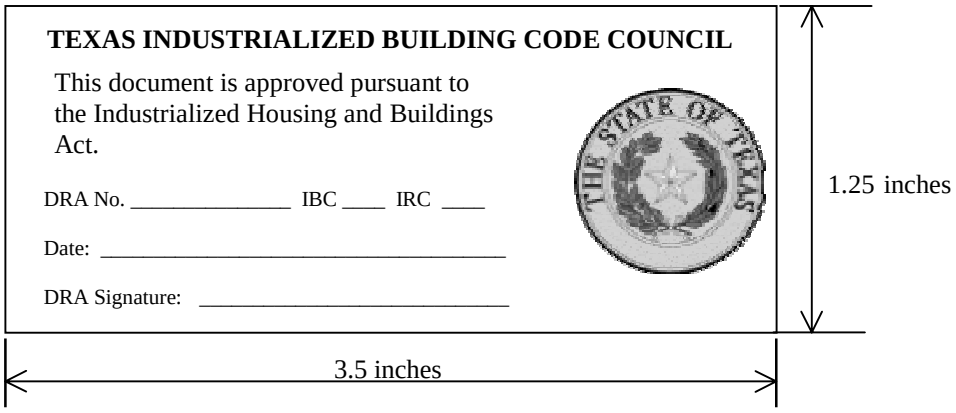
The DRA will signify approval of an IHB document by applying the council's stamp of approval to **EACH PAGE** [reference rule 70.70(a)(4)].

## 702.2 Original Council Stamp of Approval.

### 702.2.1 Design of Stamp. *(Revised October 3, 2001)*

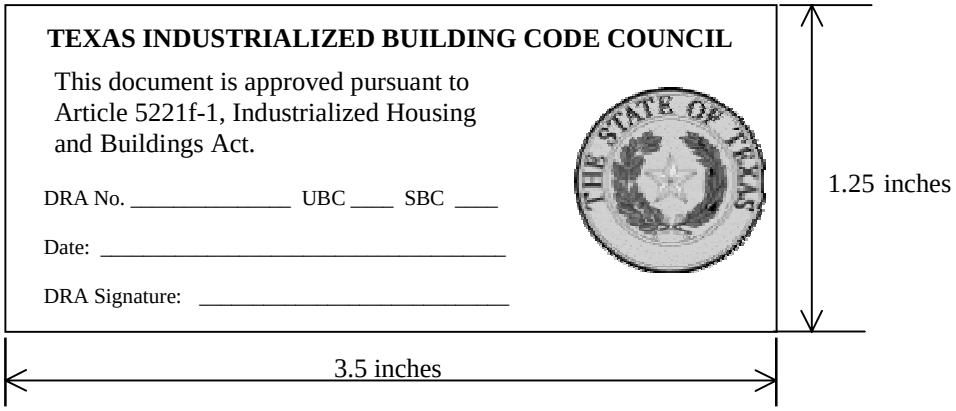
***August 23, 2001:*** The design of the original Council stamp of approval was changed due to the adoption of the 2000 International Codes. The effective date of adoption of the 2000 International Codes is February 20, 2002. The design was also changed to eliminate reference to the article or chapter designation number. The new design for the Council stamp of approval shall be as shown in Figure #702.2.1.

**Figure #702.2.1**




***December 10, 1985:*** The original Council stamp of approval shall be as shown in Figure #702.2.2.

**Figure #702.2.2**



### 702.2.2 Use of Original Council Stamp of Approval.

The stamp shall not be placed on any documents that do not meet the requirements of the mandatory codes or the Department rules.

Information required to be entered on the original Council stamp of approval includes the DRA's registration number, the code or codes to which the document has been reviewed and approved, the date of approval, and the DRA original signature. The signature on the stamp must be the signature of the manager or chief executive office of the DRA as indicated in the DRA's application for approval. The manager or chief executive officer must be a registered engineer or architect in the State of Texas [reference rules 70.70(a)(4) and 70.22(2)(A)].

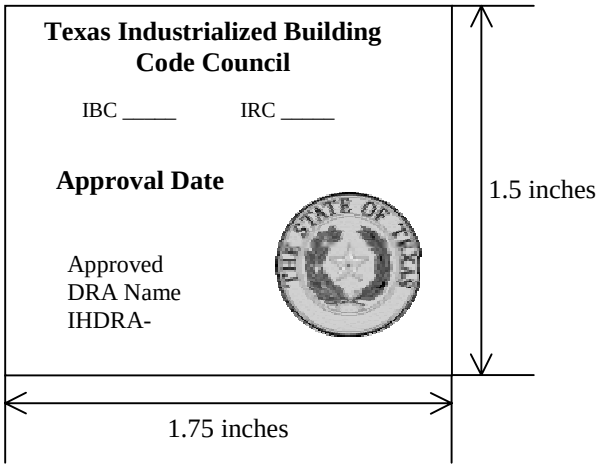
Every approved page must bear an inked Council stamp of approval. However, the original Council stamp is not required (reference Section 702.3, Alternate Council Stamp of Approval). The original Council stamp is required on all table of contents pages, index pages, and cover or first page of a set of plans, calculations, specifications, etc [reference rule 70.70(a)(4)].

## 702.3 Alternate Council Stamp of Approval.

### 702.3.1 Design of Alternate Stamp. *(Revised October 3, 2001)*

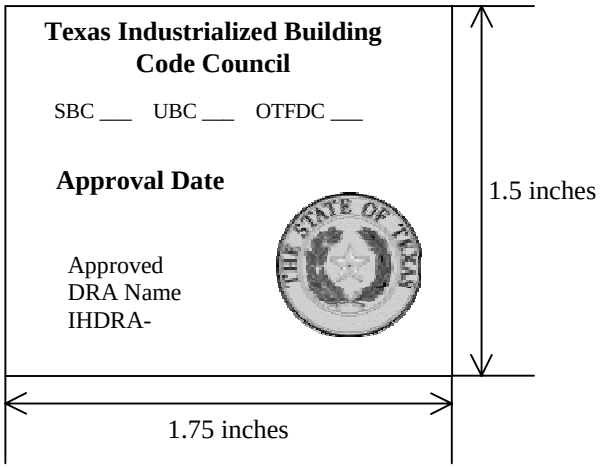
***August 23, 2001:*** The design of the alternate Council stamp of approval was changed due to the adoption of the 2000 International Codes. The effective date of adoption of the 2000 International Codes is February 20, 2002. The new design for the alternate Council stamp of approval shall be as shown in Figure #702.3.1.

**Figure 702.3.1**



***May 8, 1986:*** The Council approved the alternate Council stamp of approval. The alternate Council stamp of approval shall be as shown in Figure #702.3.2.

**Figure 702.3.2**




### 702.3.2 Use of Alternate Council Stamp of Approval.

The stamp shall not be placed on any documents that do not meet the requirements of the mandatory codes or the Department rules.

Information required to be entered on the alternate Council stamp of approval includes the code or codes to which the document has been reviewed and approved and the date of approval. The DRA name, registration number, and the word "APPROVED" should be a permanent part of the stamp.

Every approved page must bear an inked Council stamp of approval. The alternate stamp may not be used on the cover or first page of a set of documents, table of contents pages, or index pages [reference rule 70.70(a)(4)].

## SECTION 703 - RED LINING PROCEDURES.

### 703.1 General.

***May 8, 1986:*** The Council approved the use of red line corrections by DRA's to documents approved by the DRA [reference rule 70.70(a)(8)].

### 703.2 Limitations.

DRA's may make red ink corrections to documents when the corrections meet all of the following criteria:

1. corrections are limited to corrections of minor deviations;

2. the corrected items can be verified by reference to prescriptive code requirements;

3. the change does not involve any change of design or require design;

4. the red ink correction is valid for 10 working days and may not be extended; and

5. the corrections must be numbered and initialed by the DRA and the statement "**As noted with _____ (number) corrections**" shall appear near the Council stamp of approval with the number of corrections entered.

# SECTION 704 - DRA MONITORING

## 704.1 General.

In accordance with the instructions of the Council, the Department monitors and evaluates the performance of design review agencies.

## 704.2 Engineering Reviews.

### 704.2.1 Objective of Reviews.

Engineering reviews are technical reviews, performed by the Department, of DRA approved documents forwarded to the Department by the DRA. The objective of an engineering review is to ensure:

1. that design packages [reference rule 70.10(a)(12)] for Industrialized Housing and Buildings, modules, and modular components, conform to the mandatory codes [reference rules 70.100 and 70.101] and Department rules;

2. that the DRA consistently and uniformly implements the policies and determinations of the Council with regard to interpretations of the standards and rules;

3. that the compliance control manuals and associated revisions are compatible with the designs to be followed in each manufacturing facility and commit the manufacturer to make adequate inspections and tests of every part of every module and modular component produced; and

4. that the DRA does not provide design services or prepare compliance control manuals for manufacturers for whom it acts as a design review agency.

### 704.2.2 Frequency of Reviews.

The Department objective is to review approximately 10% of all approved documents forwarded to the Department.

### 704.2.3 Contents of Reviews.

Each review is assigned an engineering review number for tracking purposes. The review will describe the manufacturer whose documents were reviewed, the name of the DRA that approved the document, the name and phone number of the individual performing the review, a description of the document in question, the approval date of the document, the code or rule

reference which the reviewer believes has not been met, and a description of the deviation or nonconformance. The report will also have a space for the DRA's response.

The report is sent to the DRA with a cover letter that sets the time limit for responding to the report. A copy of the report is also mailed to the manufacturer.

### 704.2.4 Responses to Reviews.

The DRA's response to the review must:

1. provide evidence that the deviation or nonconformance conforms to the mandatory codes, Department rules, or Council interpretations or directives; or

2. indicate that the manufacturer is being required to revise the document(s) in question to conform to the mandatory codes, Department rules, or Council interpretations or directives. A response will not be considered complete until the Department has received all approved revisions.

All responses to engineering reviews must reference the engineering review number. Any revisions to documents in response to an engineering review must reference the engineering review number on the transmittal sheet, form #046ihb.

If the DRA agrees with the Department that a deviation or nonconformance to the codes, rules, etc. exists, and the manufacturer refuses to correct the document or documents involved, then the DRA shall rescind approval of the document(s).

### 704.2.5 Failure to Respond to a Review.

Failure to respond to an engineering review shall be forwarded to the Council for further action.

### 704.2.6 Unsatisfactory Response.

If the Department and the DRA cannot reach a consensus on an item questioned on an engineering review, then the review will be forwarded to the Council for disposition.

# SECTION 705 - COUNCIL DECISIONS

## 705.1 Fire Sprinklers.

### 705.1.1 Sprinkler Waivers/Variances.

#### 705.1.1.1 Rockwall County Jail.

***January 22, 1988*** ***(Codes: 1985 UBC with 1986 amendments, 1985 SBC with 1986 amendments):*** The Council, in accordance with Section 106 of the Uniform Building Code, 1986 edition, approved a waiver of the automatic sprinkler system, required by Section 3802(g) of the Uniform Building Code for Group I occupancies, in inmate living areas of the Rockwall County Jail. **This waiver was only for this project.** In addition, the Council required that the facility must be constructed in accordance with the rules and approval of the Texas Jail Standards Commission and that a similar waiver must be obtained from local enforcement officials.

#### 705.1.1.2 Texas Commission on Jail Standards.

***June 30, 1988*** ***(Codes: 1985 UBC with 1986 amendments, 1985 SBC with 1986 amendments):*** **The Council granted a permanent variance to the Texas Commission on Jail Standards in regards to sprinkler system in jails. (NOTE: This variance applies only to jails built to the Minimum Jail Standards. This variance does not apply to prisons.)** A sprinkler system will not be required in modular jail facilities if the jail meets the requirements of the Minimum Jail Standards established by the Texas Commission of Jail Standards. The jail must be in conformance with the Jail Standards requirements for smoke and fume evacuation as well as other requirements concerning smoke detection, flame retardant equipment, furnishings, bedding, etc. The Texas Commission on Jail Standards will be responsible for ascertaining that a proposed facility meets their requirements. DRA's will only be responsible for reviewing plans for proposed modular jail facilities to the mandatory codes and rules governing the IHB program.

## 705.2 Anchoring Systems.

***July 27, 1989*** ***(Codes: 1988 UBC, SBC):*** The Council approved the use of anchors as an alternate method of construction subject to the acceptance of the approving agency. The following items must be included in the documents, plans, and specifications for a foundation anchoring system before acceptance and approval :

1. a soil investigation report prepared by a qualified engineer, or, if the exact site location is unknown, a description of the soil type for which the anchoring system is suitable;

2. structural calculations and related plans prepared by a qualified engineer; and

3. specifications for adequate corrosion protection for the anchors and associated tie-down system.

The intent of this approval is to allow the approving agency to decide if the use of anchors is appropriate in each case. The Council did not want to force acceptance of anchors where the building is to be placed in a "permanent" location, but determined that anchors might be acceptable where a building is placed at a "temporary" location of the structure. **NOTE: Industrialized housing cannot be located at "temporary" locations.**

## 705.3 Nonsite Specific Buildings [reference rule 70.70(f)].

***October 18, 1989:*** The Council adopted a rule concerning site specific details for nonsite specific buildings, also known as "portable" buildings, "temporary" buildings, or "leased" buildings, i.e., buildings where the specific site may not be known at the time of construction of the building. The Council adopted a provision that permits the manufacturer, in lieu of providing the site specific construction details or typical site construction details as required in Section 70.70(d) of the Department rules, to provide special conditions and/or limitations on the placement of the building. These special conditions or limitations will alert the building official of items not in the DRA approved plans that he may need to verify for conformance to the mandatory state codes. Certain site related details, such as module to module connections, must still be provided by the manufacturer. It is the responsibility of the DRA to verify that such site related details are included in the manufacturer's design package. (NOTE: Special conditions or limitations must be noted on the floor plan or cover sheet for all nonsite specific buildings.)

## 705.4 Water Heaters.

### 705.4.1 Termination of Drain from Pressure Relief Valves.

***October 18, 1988*** ***(Codes: 1985 UPC with 1986 amendments, 1985 SPC with 1986 amendments):*** The Council interpreted the "outside of the building," as it pertains to the termination of the drain from a pressure relief valve, to mean through an exterior wall to the outside of the building, not under the building.

## 705.5 Shear Walls.

### 705.5.1 Hardwood Plywood.

***February 22, 1990*** ***(Codes: 1988 UBC, SBC):*** The Council denied a request for approval to use hardwood plywood as a structural material for shear wall design and construction. The codes do not recognize the use of hardwood plywood as a structural member in shear walls. The Council suggested that anyone wishing to use this product either attempt to change the code through the code change process for each code group or obtain an evaluation report from the evaluation services provided through the code groups or from the National Evaluation Service.

## 705.6 Exits.

### 705.6.1 Occupant Loads.

#### 705.6.1.1 Accessory Use Areas.

##### 705.6.1.1.1 Accessory Use Areas Defined.

***August 8, 1991*** ***(Codes: 1988 UBC, SBC):*** **The Council defined accessory use areas as corridors, lunch rooms, restrooms, storage rooms and other similar areas.** A conference room may be considered an accessory use area if used only by the regular occupants of the building. Conference rooms in public buildings cannot be considered accessory use areas. **To be considered an accessory use area, plans that contain conference rooms must clearly state that the conference rooms are for use only by the regular occupants of the building.**

##### 705.6.1.1.2 In Calculating Occupancy Load.

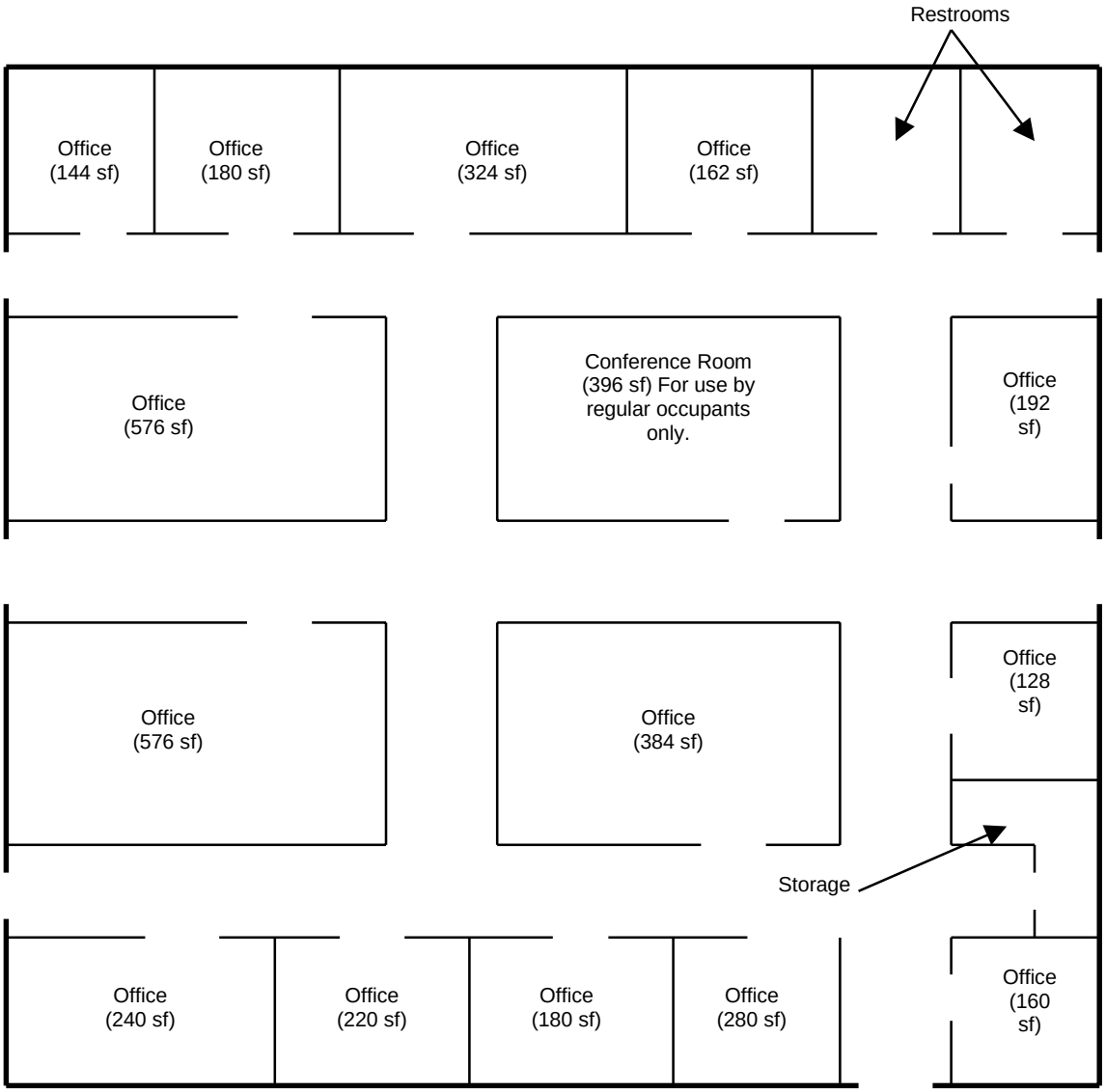
***August 8, 1991*** ***(Codes: 1988 UBC, SBC):*** The Council voted that accessory use areas need not be counted when determining the occupant load for business occupancies under the Standard Building Code. The Uniform Building Code contains an exception to Section 3302(a) that states that accessory use areas, which are ordinarily used only by persons who occupy the main areas, need not be included in computing the total occupant load of the building (NOTE: This exception **DOES**, however, require accessory use areas to be provided with exits as though they are completely occupied). The Standard Building Code does not include a similar exception.

## 705.6.2 Corridors

### 705.6.2.1 Intersecting Corridors.

***August 8, 1991*** ***(Codes: 1988 UBC, SBC)*****:** The Council stated that intersecting corridors, such as depicted in Figure 705.6.2.1, constitute a single corridor system and must be considered accessible as an exit access to all tenant spaces with doors exiting to the corridor.

**Figure 705.6.2.1**



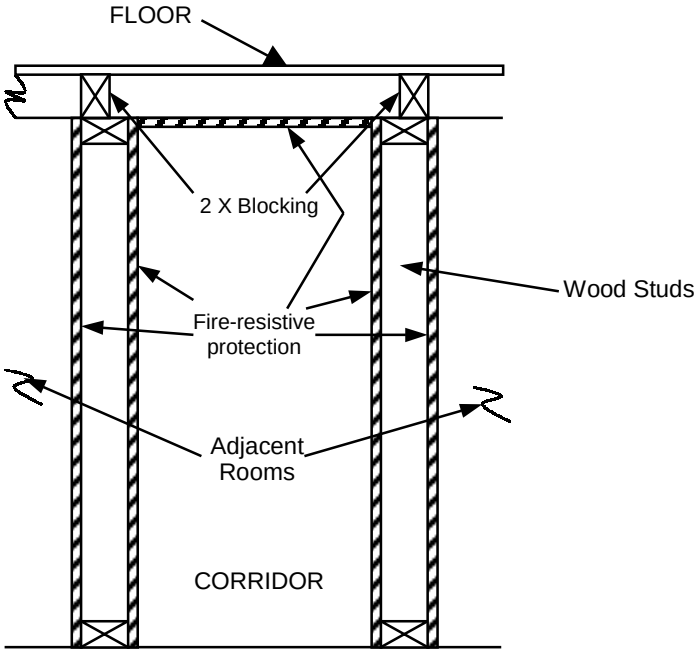

Occupancy Group B2; Area = 3666 sf; Occupant Load =37 (3666/100)
Corridor must be of one-hour fire-resistive construction. Conference rooms may be considered accessory use. Storage room and restrooms may be considered accessory use areas. Accessory use areas were not used in computation of occupant load.

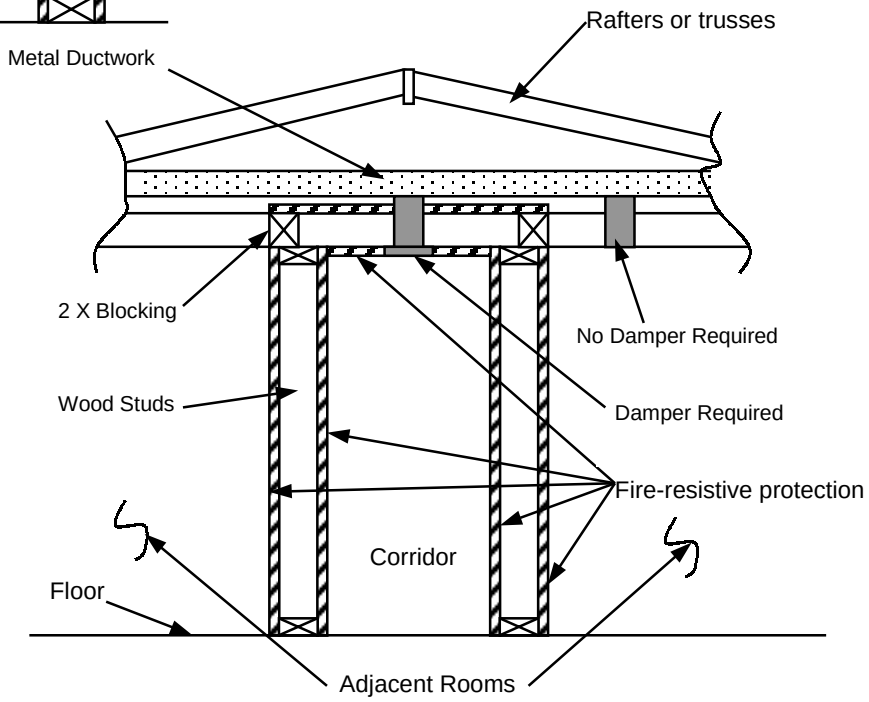
**705.6.2.2 One-Hour Fire-Resistive Construction.**

***August 8, 1991*** ***(Codes: 1988 UBC, SBC)*****:** The Council stated that corridors in business occupancies that serve occupant loads of 30 or more must be of one-hour fire-resistive construction. The Council did give the Department some discretionary power to make determinations as to whether a corridor must be one-hour rated when the occupant load is 30 or more **AND** more than the required number of exits of the outside are provided. **DRA's must contact the Department for final determination before approving unrated corridors that meet this criterion.**

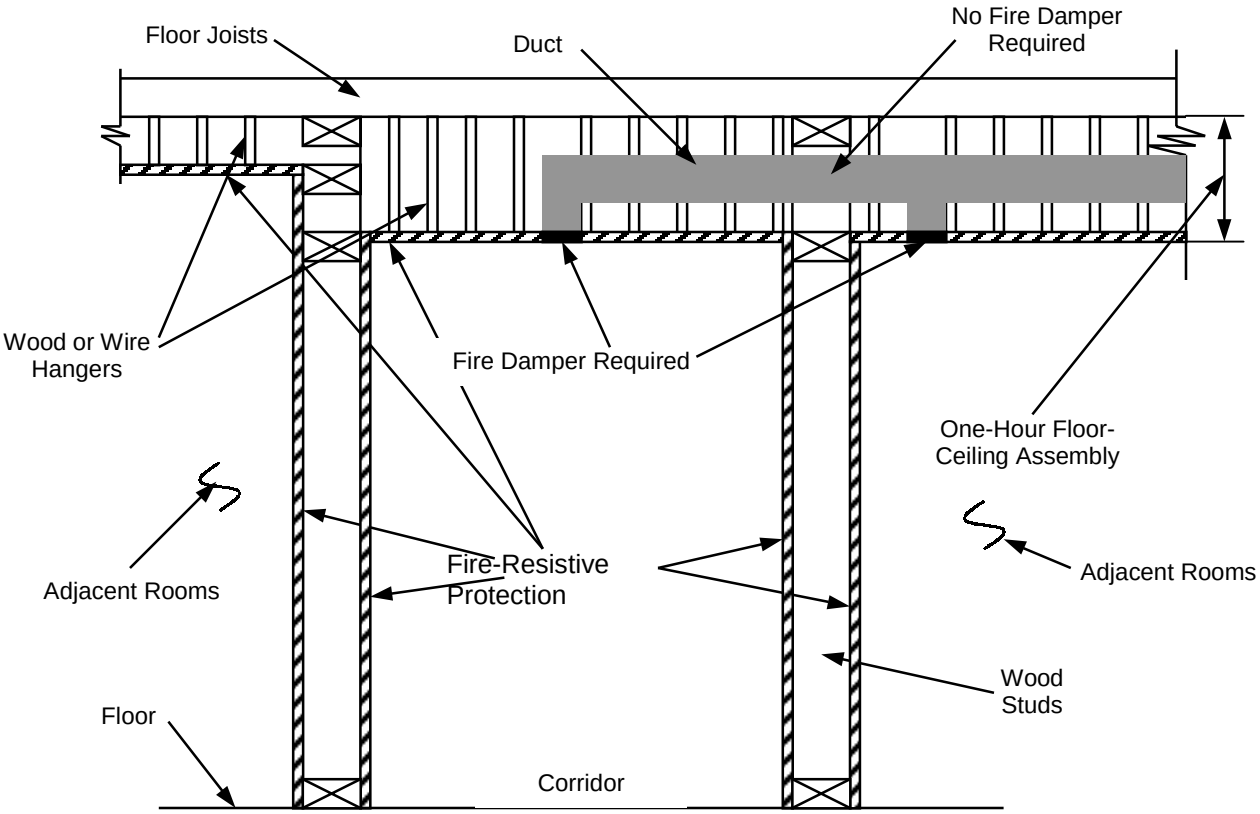
Figures 705.6.2.2A1 and 2, 705.6.2.2B1 and 2, and 705.6.2.2C1 and 2 provide some examples of details of fire-resistive corridors in combustible construction. Figures 705.6.2.2D1 and 2 and 705.6.2.2E provide some examples of details of fire-resistive corridors in non-combustible construction.

**Figures 705.6.2.2A1 and 2**



**Figures 705.6.2.2B1 and 2**



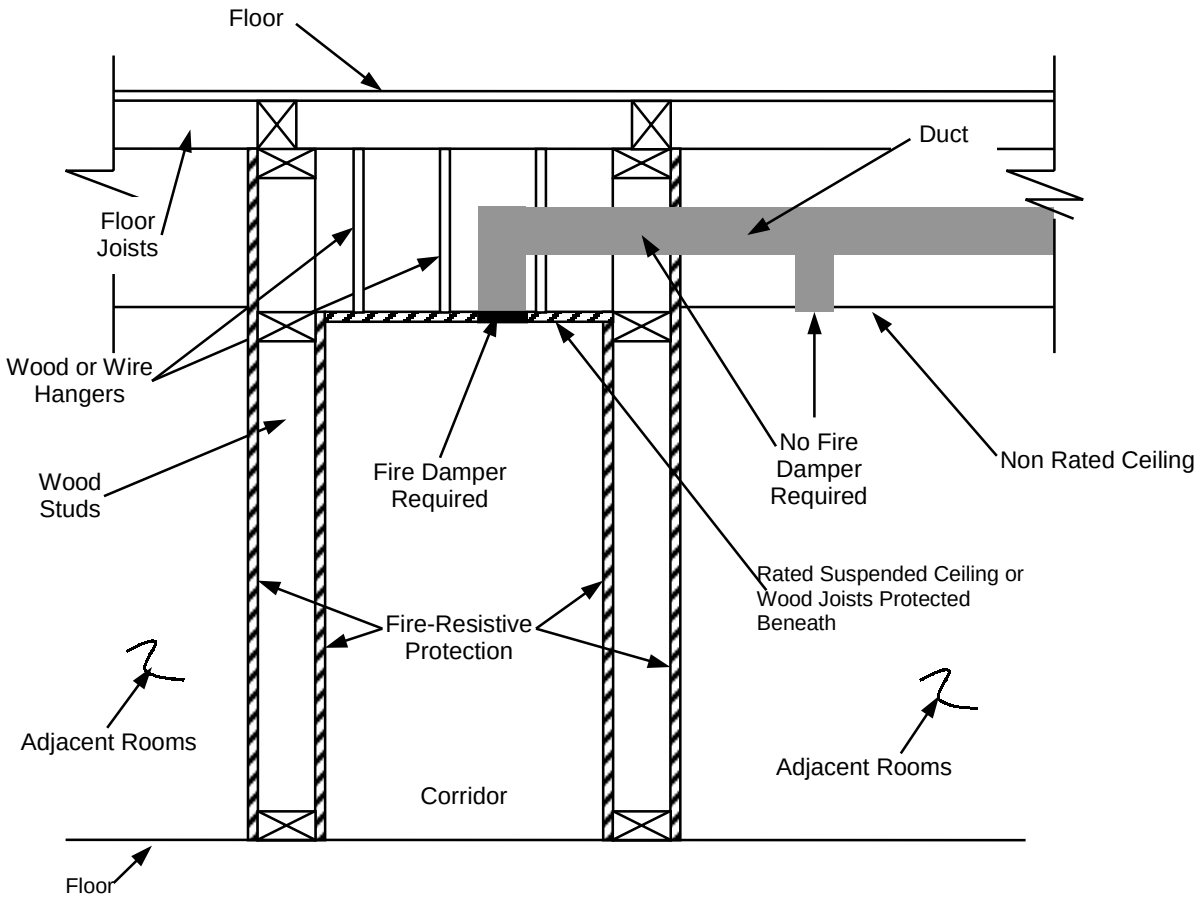
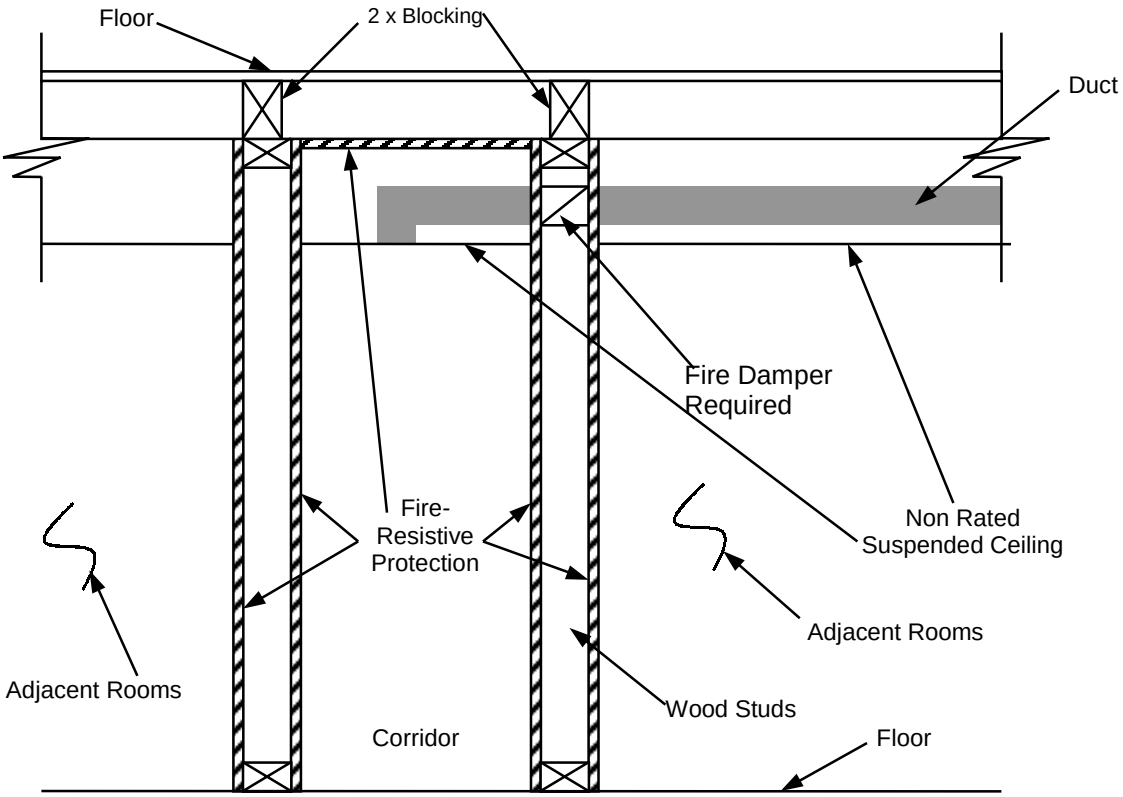



**Figure 705.6.2.2C1 and 2**



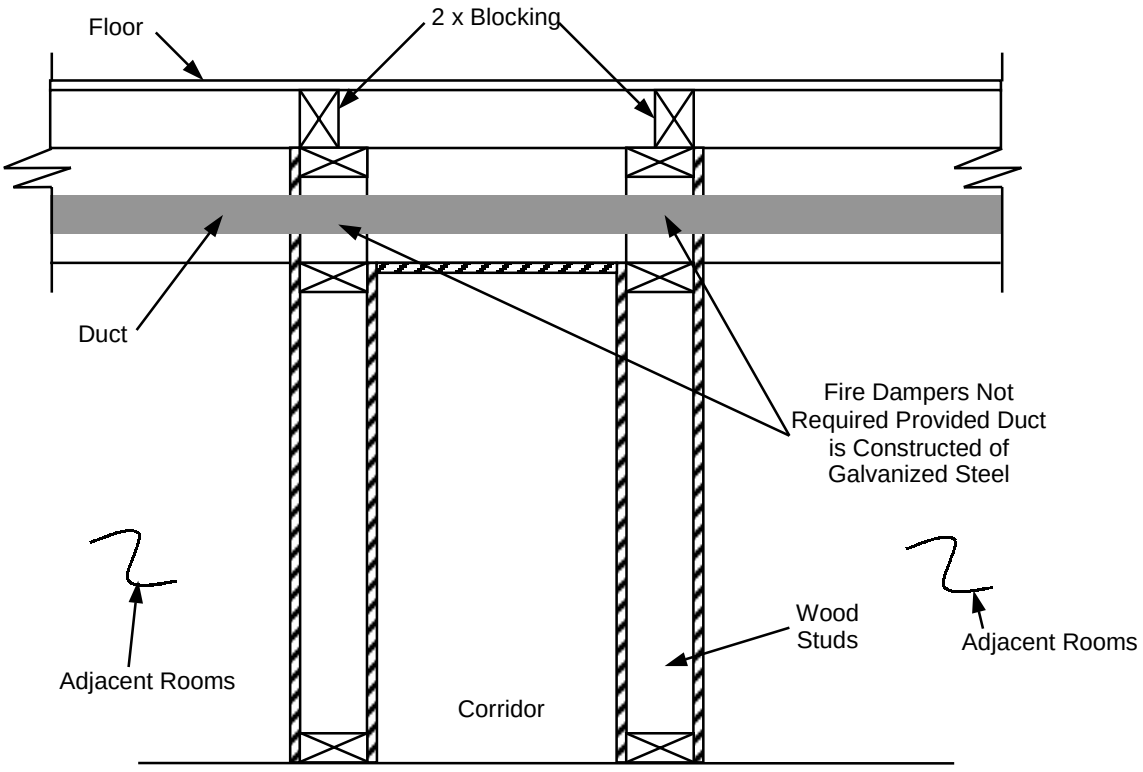
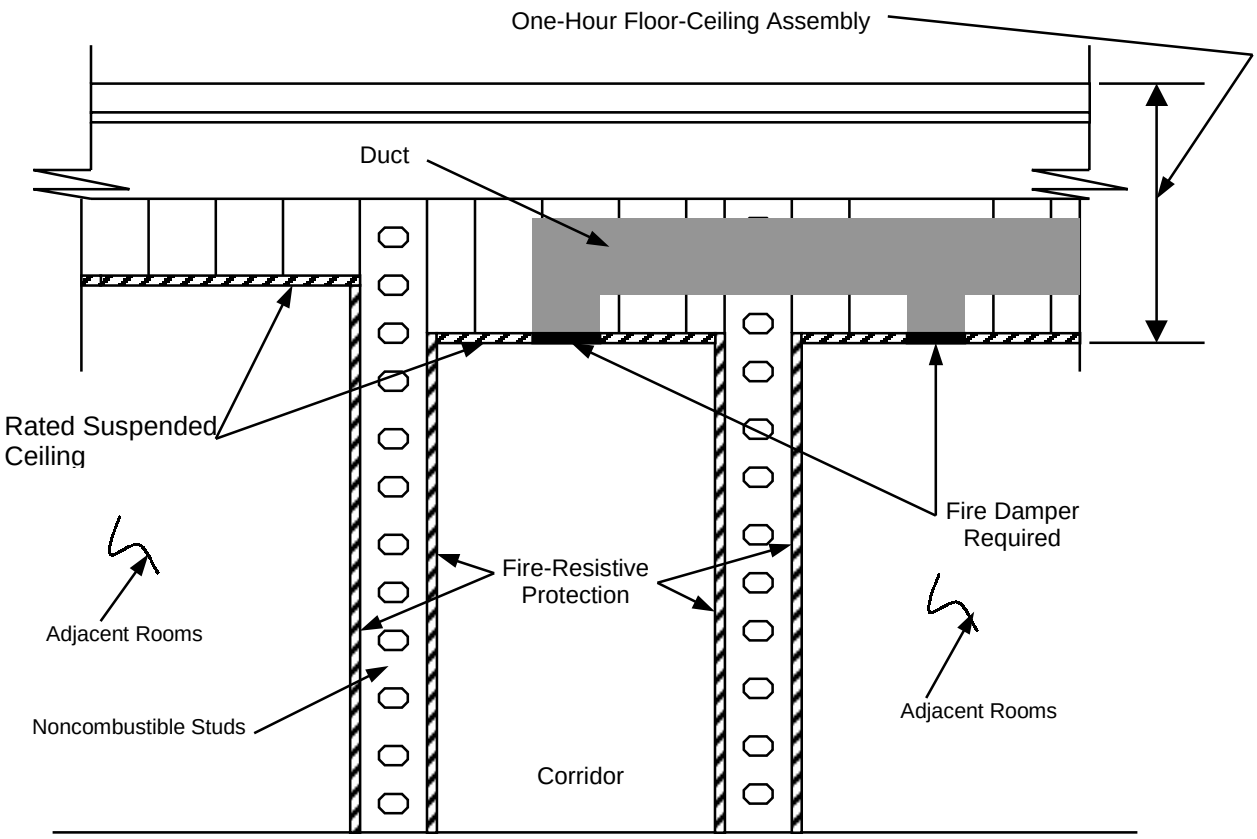



**Figure 705.6.2.2D1 and 2**



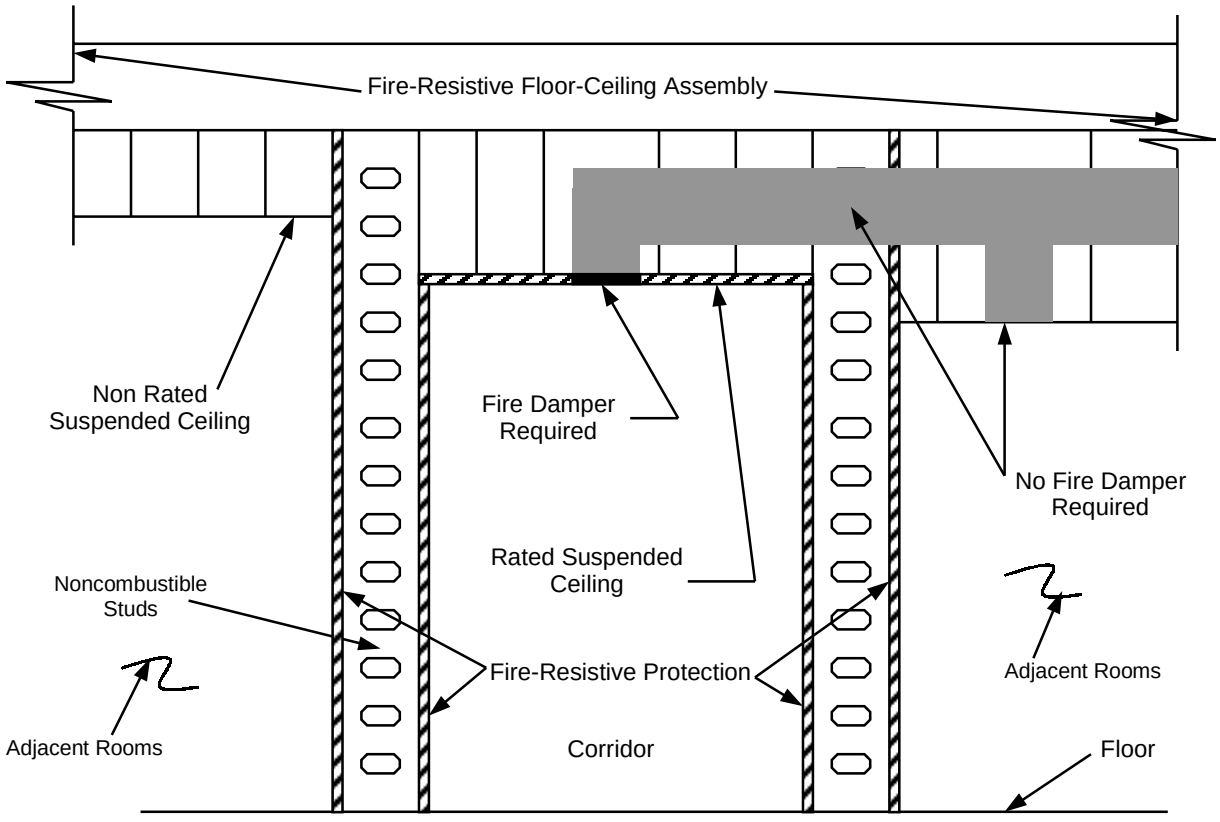
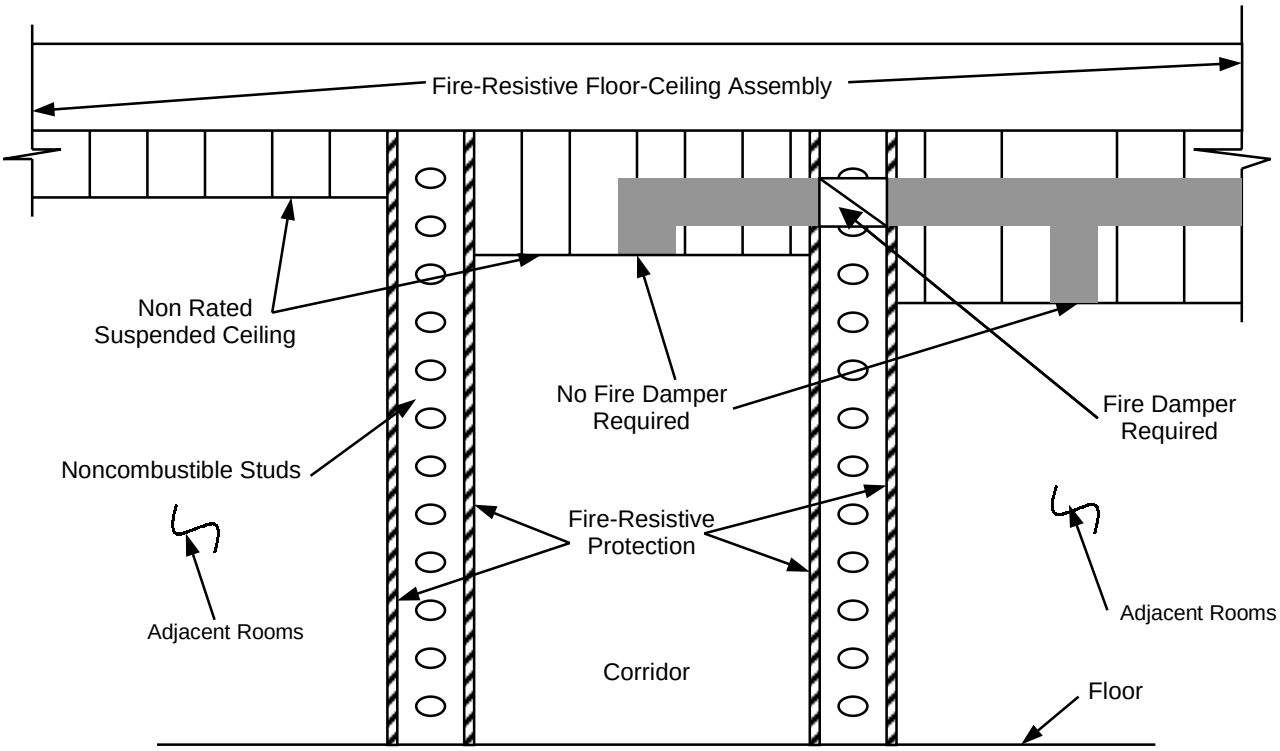



**Figure 705.6.2.2E**



### 705.6.3 Landings.

#### 705.6.3.1 Federal Express Request for Variance.

***February 16, 1989*** ***(Codes: 1988 UBC, SBC):*** Federal Express requested a variance to the UBC code requirement for a 44" landing in front of an exit door. A 44" landing could not be provided because the door also contained a drive up pass through window. The Council approved the variance with the following provisions:

1. the variance applied only to the 25 units already constructed this way;
2. the step down from the door to the landing provided must be no more than 1 inch;
3. the landing must have a 1/4-inch slope;
4. the width of the landing to the curb must be a minimum of 16 inches;
5. the landing must be marked in accordance with a sketch provided by Federal Express;
6. a mirror must be provided on the exterior of the building to provide to anyone exiting the building a warning of oncoming traffic; and
7. a warning sign must be posted on the interior of the door.

## 705.7 Electrical. *(Revised October 3, 2001)*

### 705.7.1 Panel Box

#### 705.7.1.1 Federal Express Request for Variance.

***February 18, 1989*** ***(Codes: 1987 NEC):*** Federal Express requested a variance from the NEC requirement for a 30" clear working space from floor to ceiling in front of an electrical panel box. In this case, the panel box had a counter located beneath the box and a shelf located above the box. The Council approved the variance with the following provisions:

1. the variance applied only to the 15 units already constructed this way; and
2. a warning sign had to be posted that no work was to be performed on the panel box without the main disconnect on the exterior of the building locked in the "OFF" position.

### 705.7.2 Dielectric test equipment. *(New – October 3, 2001)*

***August 23, 2001:*** ***(Codes: 1999 NEC):*** The Council approved the use of a DC dielectric tester as an alternate to the use of an AC dielectric tester. The applied test voltage for testing with a DC tester shall be 1.414 times the value of the equivalent AC test voltage.

## 705.8 Exterior Wall Coverings.

### 705.8.1 Exterior Veneers.

#### 705.8.1.1 GRANEX Exposed Aggregate Panels.

***November 21, 1991*** ***(Codes: 1988 UBC, SBC):*** The Council approved the use of GRANEX Aggregate Panels as an alternate to the mandatory codes when used as a nonstructural veneer panel in the construction of industrialized housing and building. Although Steelgard, a certified IHB manufacturer, was the originator of the request for the approval, the approval was not limited to Steelgard. The Council did, however, recommend that the manufacturer of the GRANEX panels continue to pursue either an evaluation report from ICBO or SBCCI or a National Evaluation Report, which is recognized by both ICBO and SBCCI.

#### 705.8.1.2 Veneers Not Recognized by the Mandatory Codes.

***January 4, 1993*** ***(Codes: 1991 UBC, SBC):*** The Council approved a motion to allow the use of veneers not otherwise recognized by the codes provided that:

1. an evaluation report exists for the product and the product is used in accordance with that report; or

2. the building design is totally independent of the material on the outside, i.e., the building still meets all building code requirements without the veneer; or

3. the material has been tested by an independent recognized laboratory and/or meets the standards of a legitimate trade association and that these tests or standards prove that this product is capable of carrying certain loads, either laterally or vertically, when attached in a certain fashion. Alternately, a structural engineer may design and certify, through calculations and valid test reports, a material's ability to perform in accordance with the code criteria.

The veneer must be used in accordance with the conditions of use for that product as set out by the evaluation report, testing agency, legitimate trade association standard or listing, or structural engineer. Acceptance by the DRA of a product based on a report from a recognized testing laboratory or on standards of a trade association may require the DRA to evaluate the tests and the product to assure compliance with the code criteria.

### 705.8.2 Exterior Finish and Insulating Systems.

#### 705.8.2.1 Request by Triad Building Systems for approval of an alternate to ICBO evaluation report #ER-4169.

***August 18, 1998*** ***(Codes: 1994 UBC, SBC):*** Triad Building Systems requested that the Council approve the use of Tri-State Foam EPS board for the AFM WSG board specified in the evaluation report on the Parex System 3 Exterior Finish and Insulating System (ICBO report #ER-4169). Parex supplied the Tri-State Foam insulation board used by Triad in the construction of the Popeye's Chicken and Biscuit buildings, serial #'s 7PC01 and 7PC02. The Council approved the substitution for the 2 buildings indicated only with the provision that Popeye's Chicken be notified in writing of the substitution of the Tri-State Foam EPS board for the AFM WSG board required by the code evaluation report.

## 705.9 Design Loads. *(Revised October 3, 2001)*

### 705.9.1 Wind Loads.

#### 705.9.1.1 Appendix Chapter 25 of the UBC.

***May 8, 1992*** ***(Codes: 1991 UBC, SBC):*** The Council determined that, for conventional light-frame construction in high-wind areas designed to the UBC, those portions of structures which vary from the prescriptive requirements of UBC Appendix Chapter 25 may be approved provided an analysis with appropriate construction details is provided. Evidence of a satisfactory design must include substantiation that a complete load path to resist the uplift and horizontal force demand of the wind is provided, along with appropriate details.

Additionally, the Council determined that the corrosion resistance and treated wood requirements of Appendix Chapter 25 could not be designed. These items must meet the prescriptive requirements or must receive approval as an alternate to the code.

### 705.9.2 Seismic. *(NEW – October 3, 2001)*

#### 705.9.2.1 Seismic design category.

***August 23, 2001*** ***(Codes: 2000 IBC, IRC):*** The Council approved a change to the load information required on the building data plate and on the floor plan, cover page, or title sheet for each model or project. The requirement for a "seismic zone" as part of the load criteria is to be changed to "seismic design category." The 2000 International Building Code (IBC) and the 2000 International Residential Code (IRC) require buildings to be assigned a seismic design category, not a seismic zone. The effective date is that same as that for the adoption of the 2000 International Codes, February 20, 2002.

## 705.10 Fire-Resistive Construction.

### 705.10.1 Request for Approval of 1-Hour Fire-Resistive Floor/Ceiling Assembly.

***February 3, 2000*** ***(Codes: 1997 UBC, SBC):*** Sunrise Housing requested approval of a one-hour fire-resistive floor/ceiling assembly tested for them by Southwest Research Institute in accordance with ASTM E 119. Southwest Research Institute is approved to perform this test under National Evaluation Services evaluation report #NER-TL351. The Council passed a motion to approve the assembly as described in the documentation presented by Sunrise Housing.

## 705.11 Roofs.

### 705.11.1 Ventilation requirements.

***February 2, 2000*** ***(Codes: 1997 UBC, SBC):*** The Council was asked to determine when ventilation of rafter or attic spaces was required in accordance with section 2309.7 of the 1997 SBC and section 1505.3 of the 1997 UBC. The Council determined that DRA's should continue to interpret when this section applies on a case by case basis. The Department recommends that DRA's check the local requirements for site specific buildings and document those requirements for their files. For plans of non-site specific buildings approved without ventilation of the rafter or attic spaces, have the manufacturer include a note under special conditions or limitations that the ventilation of the rafter or attic space shall be in accordance with the requirements of the local building official [reference section 705.3 of this document].

### 705.11.2 Membrane Roof Coverings.

#### 705.11.2.1 Request for Approval of an Alternate to NES report #NER-227.

***February 2, 2000*** ***(Codes: 1997 UBC, SBC):*** Blazer Industries plans for a 28 x 70 bank building required that the Duro-Last roofing system be installed in accordance with section 3.3.2 of evaluation report #NER-227. This section states that the construction is limited to combustible deck assemblies with a minimum 15/32" thick sheathing with 2 layers of FR-10 placed over the deck and covered with one layer of the Duro-Last membrane fastened in accordance with Table 1 of report #NER-227. During inspection it was discovered that a footnote to Table 1 requires that the fasteners protrude a minimum of 1/8" beyond the minimum ¾" plywood deck or embed into a 1" thick deck. The units were constructed with a 15/32" deck. The ¾" plywood deck is necessary to meet the wind uplift requirements of the tested assembly. A Texas registered professional engineer designed an alternate fastening system that would require additional fasteners to be added through the membrane and into the trusses of the roof, thus embedding into a minimum 1" thickness of wood. A 9" x 9" patch is then installed over each additional fastener in accordance with the manufacturer's installation instructions as referenced in the evaluation report. The Council approved this design for the one building identified in the inspection report as long as the standard Duro-Last warranty is issued.

#### 705.11.2.2 EPDM Guidelines. *(NEW – October 3, 2001)*

***August 23, 2001*** ***(Codes: 1997 UBC, SBC; 2000 IBC):*** The Council set guidelines for plan reviews and inspections of buildings utilizing membrane roofing systems. The guidelines are as follows.

- Design review agencies shall review calculations and construction documentation and specifications of buildings utilizing membrane roofing systems for conformance to the listing on the roofing system and the applicable code sections in chapter 15 of the International Building Code (IBC). Calculations are required for all wind speeds, not just those that may be considered high wind areas. Acceptable listings include code evaluation reports, UL listings, FM listings, or listings from other recognized agencies approved to evaluate and list such systems. Listing reports or information must include documentation indicating compliance with the requirements of section 1504.1 (wind uplift), section 1505 (fire classification) and section 1507 (material specifications and weather resistance) of the 2000 IBC for membrane roofing systems. Code evaluation reports on these roofing systems typically cover all aspects, i.e., wind uplift, fire classification, and weather resistance of the product. Please note that listing reports other than code evaluation reports may not be inclusive, i.e., may not cover all aspects to be checked for conformance to the codes. The listing reports or information shall be a part of the approved documents.

- Third party inspectors shall inspect to the approved documents in accordance with Texas in plant inspection procedures. The listing report information is a part of the approved

documents. The requirements of the listing report or information governs over what may be required by the manufacturer's installation instructions for the membrane roofing system. TPI's shall assure that component parts of the roofing system are identified in accordance with the listing on the system. TPI's shall assure that the installer of the roofing membrane is licensed or approved in accordance with the requirements of the listing on that product or the manufacturer's installation instructions for the roofing system.

Membrane roofing systems used on buildings that meet all code requirements without the roofing system will only have to meet the fire classification requirements of the code. The membrane roofing system must be listed for installation in the way that it will be used. For example, the fire classification listing for a membrane roofing system to be used on a concrete equipment shelter must be listed for installation directly to the concrete roof.

### 705.11.3 Load Bearing.

#### 705.11.3.1 Compression strips.

***September 21, 2000*** ***(Codes: 1998 OTF):*** The Council was asked if gypsum board is an acceptable compression strip in accordance with section 802.5 of the International One and Two Family Dwelling Code. This code section permits a compression strip to be installed between the top plate of the load bearing walls and the roof trusses or ceiling joists provided the compression strength of the material is adequate to withstand the loads transferred through it. The Council approved the use of gypsum as a compression strip in accordance with this section as long as substantiating calculations are provided and these calculations take into account the effects of the temperature and humidity conditions where the buildings are to be located. This applies only to residential structures (one and two family dwellings). There is no similar allowance for the use of a compression strip in the Uniform Building Code or the Standard Building Code.

The compression values from Gypsum Association GA-235-98 may be used for these calculations. However, the calculations must take into account the temperature and humidity conditions where the building will be located. The values reported in GA-235-98 are based on tests performed at 70 degrees F and 50% humidity. The Gypsum Association was unable to supply any data on the effects of temperature and humidity on these compression values. Without this data from the Gypsum Association, the use of gypsum as a compression strip in the State of Texas is limited to areas where the average temperature is 70 degrees F and the average humidity is 50%. Use of data from other sources will not be permitted without a code evaluation report or approval of the Council.

Any manufacturer that uses gypsum as a compression strip per the above guidelines must include a note on the data plate and plan cover page or floor plan that the dwelling may only be sited in areas where the average temperature is 70 degrees F and the average humidity is 50%.

## 705.12 Building Ventilation.

### 705.12.1 Code Conflict.

***February 2, 2000*** ***(Codes: 1997 UBC and SBC, 1998 IMC):*** The Council was asked to determine if the requirements of the 1997 UBC and SBC or the 1998 IMC govern the requirements for ventilation of toilet rooms. Section 1202.2.1 of the 1997 UBC requires a complete change of air every 15 minutes in toilet rooms for most occupancies. Section 1203.5 of the 1997 SBC references ASHRAE 62, which requires 50 cfm of ventilation per water closet or urinal in toilet rooms for most occupancies. Table 403.3 of the 1998 IMC requires 75 cfm of ventilation per water closet or urinal in toilet rooms for most occupancies. The Council decided that the 1998 IMC would govern the ventilation requirements since this is the direction that the codes are headed with the International Codes.

## 705.13 Plumbing Fixtures.

### 705.13.1 Unoccupied Buildings.

***February 2, 2000*** ***(Codes: 1997 IPC):*** The Council determined that unoccupied buildings such as equipment shelters do not need to meet the requirements of the IPC concerning minimum number of plumbing fixtures. This determination applies only to buildings that are normally not occupied. Please note that equipment shelters classified as a Group H occupancy would still need to comply with any requirements for emergency showers and eyewash stations.

### 705.13.2 Occupied Buildings.

***February 2, 2000*** ***(Codes: 1997 IPC):*** All other buildings must comply with requirements of the 1997 IPC for minimum plumbing fixtures. However, manufacturers may continue to specify on the plans and data plate of non-site specific buildings without the minimum number of required fixtures that the minimum plumbing fixtures in accordance with code requirements are required to be located in another building on the installation site.

## 705.14 Interior Finishes.

### 705.14.1 Surfaces in public restrooms.

***February 2, 2000*** ***(Codes: 1997 UBC, SBC):*** The Council was asked to determine the definition of public as it regards the code requirements for hard nonabsorbent surfaces in public restrooms. The Council decided that a small office building with a single restroom containing a single water closet and lavatory could be considered private. The number of plumbing fixtures in the building must be in compliance with the requirements of the 1997 IPC. Please note that this does not negate the requirements of section 2512 of the UBC or section 2504.4 of the SBC (section 14.3 of GA 216-96) concerning the use of water resistant gypsum backing board in wet areas.

### 705.14.2 Surfaces around bathtubs in one and two family dwellings.

***September 21, 2000*** ***(Codes: 1998 OTF):*** The Council approved the use of the specifications found in appendix A.1 of GA-216-96 as a suitable alternate to the requirements of section 702.4 of the 1998 International One and Two Family Dwelling Code. Section 702.4 requires bathtub walls to be finished with a smooth, hard and nonabsorbent surface a minimum of 6 feet above the floor. Appendix A.1 of GA-216-96 only requires the smooth, hard and nonabsorbent surface to extend 6 inches above the rim of the bathtub for bathtubs without shower heads. Gypsum board behind the surface is still required to be a water-resistant gypsum backing board conforming to ASTM C630.

## 705.15 Gypsum Board.

### 705.15.1 Adhesives.

#### 70.15.1.1 Request for approval of FoamNail adhesive as an alternate to FoamSeal adhesive. *(Revised October 3, 2001)*

***September 21, 2000*** ***(Codes: 1997 UBC, SBC):*** The Council did not approve the use of FoamNail adhesive as an alternate to FoamSeal F2100 adhesive (reference ICBO evaluation report #4874 and NES evaluation report #NER-496) for the attachment of gypsum board to roof

framing members. The Council indicated that FoamNail adhesive needed to be evaluated and approved through one of the code evaluation services, i.e., ICBO, SBCCI, or NES, to be accepted under the Texas IHB program.

***UPDATE:*** A code evaluation report on FoamNail adhesive was issued by ICBO on May 1, 2001. The evaluation report limits the use of the adhesive to nonbearing interior or partition walls and ceilings.

### 705.15.2 Horizontal applications. *(Revised October 3, 2001)*

***September 21, 2000 (Codes: 1997 UBC, SBC):*** The Council was asked to determine if it was acceptable to attach ½" Gold Bond high strength ceiling board parallel to framing members with mechanical fasteners when a water-based texture finish is to be applied. Evaluation report #NER-496 lists ½" Gold Bond gypsum board as a suitable alternative to 5/8" regular gypsum board finished with water-based texture materials. The evaluation report requires the ceiling board to be applied perpendicular to the framing members when fastened mechanically, but permits it to be applied parallel to the framing members when fastened with FoamSeal F2100 adhesive. In modular plants the finished ceiling material is usually installed on the roof trusses prior to installation of the ceiling assembly on the walls. Installing the gypsum board perpendicular to the trusses in this situation leads to a problem with cracking of the ceiling assembly when lifting it for installation on the module. The Council apporved the application of ½" Gold Bond gypsum board parallel to the framing members attached with mechanical fasteners provided written authorizatin is obtained from the manufacturers of Gold Bond, National Gypsum Company. Until such authorization is received, manufacturers may install the Gold Bond gypsum parallel to framing members only when attached with FoamSeal F2100 adhesive.

***UPDATE:*** As of this date no written authorization has been received from National Gypsum indicating that it is acceptable to attach Gold Bond gypsum board parallel to the ceiling framing members with mechanical fasteners. Nor has evaluation report #NER-496 been updated to permit mechanical fastening when material is applied parallel to framing members or been updated to recognize the use of FoamNail adhesive as an alternate fastening method. In additiion, ICBO evaluation report #ER-5733, issued February 1, 2001, does not permit mechanical fastening when material is applied parallel to framing members and does not recognize FoamNail adhesive as an alternate fastening method.